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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 40 768.gi.se	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/001701	International filing date (day/month/year) 20 February 2003 (20.02.2003)	Priority date (day/month/year) 09 March 2002 (09.03.2002)
International Patent Classification (IPC) or national classification and IPC C23C 2/24		
Applicant SMS DEMAG AKTIENGESELLSCHAFT		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>6</u> sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>

Date of submission of the demand 26 September 2003 (26.09.2003)	Date of completion of this report 30 June 2004 (30.06.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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International application No.

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I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages 1-4, 8-10, as originally filed
pages _____, filed with the demand
pages 5-7, filed with the letter of 27 May 2004 (27.05.2004)
- ☒ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages 1-8, filed with the letter of 27 May 2004 (27.05.2004)
- ☒ the drawings:
pages 1/4-4/4, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1 - 8	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 8	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 8	YES
	Claims		NO

2. Citations and explanations

1. This report makes reference to the following documents:

D1: WO-A-9605333

D2: WO-A-0171051

D3: FR-A-2797276

2. Document D1, which is considered to represent the closest prior art, discloses a device for stabilising a strip in an installation for coating strip-shaped goods, in which a metal strip is passed through a container of melted coating material; induction currents are induced in the coating material by an electromagnetic blocking field in a guide channel provided in the container below the melted bath level. The induction currents interact with the electromagnetic blocking field, producing an electromagnetic force that holds back the coating material.

The inductor comprises an induction coil on each side of the guide channel.

The subject matter of claims 1-8 differs from that disclosure in that an alternating current with less than 500 Hz frequency is fed to the induction coils and in that

at least two correction coils are arranged perpendicularly to the surface of the metal strand to regulate the position of the metal strand in the guide channel.

The subject matter of claims 1-8 is therefore novel (PCT Article 33(2)).

3. Document D2 discloses a hot dip-coating device for metal strands, in particular steel strands, in which the metal strand can be passed vertically through a container of melted coating metal and through an upstream guide channel in which induction currents can be induced in the coating metal by an electromagnetic field of travelling waves. The induction currents interact with the electromagnetic field of travelling waves, producing an electromagnetic force for holding back the coating metal.

Correction coils are arranged in the magnetic yokes of the main coils of the magneto-hydrodynamic inductor. The inductor comprises a row of at least two adjacent correction coils on each side of the metal strand.

That disclosure differs from the subject matter of claims 1-8 in that a single-phase alternating current with less than 500 Hz frequency is fed to the induction coils.

The subject matter of claims 1-8 is therefore novel (PCT Article 33(2)).

4. Document D3 discloses a device for hot dip-coating metal strands, in particular steel strands, in which the metal strand is vertically passed through a container of melted coating metal and through an upstream guide channel, induction coils being arranged on both sides of the guide channel to hold back the coating metal in the

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container by means of electromagnetic forces induced in the coating metal.

An alternating current with a low frequency, ranging for example from 150 to 200 Hz, is fed to the induction coils.

The subject matter of claims 1-8 differs from that disclosure in that a single-phase alternating current is supplied to the induction coils and in that at least two correction coils are arranged normally to the surface of the metal strand in order to regulate the position of the metal strand in the guide channel.

The subject matter of claims 1-8 is therefore novel (PCT Article 33(2)).

5. The subject matter of claims 1-8 is also inventive (PCT Article 33(3)) because the combination of features defined therein cannot be obviously derived from documents D1 to D3 in combination.